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EXAMINER	
LAU, L	

ART UNIT	PAPER NUMBER
2609	21

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DATE MAILED: 03/14/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

[X] This application has been examined [X] Responsive to communication filed on 12-26-95 [ ] This action is made final.

A shortened statutory period for response to this action is set to expire three month(s), — days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. [X] Notice of References Cited by Examiner, PTO-892.
2. [ ] Notice of Draftsman's Patent Drawing Review, PTO-948.
3. [ ] Notice of Art Cited by Applicant, PTO-1449.
4. [ ] Notice of Informal Patent Application, PTO-152.
5. [ ] Information on How to Effect Drawing Changes, PTO-1474.
6. [ ] _____.

Part II SUMMARY OF ACTION

1. [X] Claims 1-40 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. [X] Claims 1-20, 32-33 and 36-40 have been cancelled.
3. [ ] Claims _____ are allowed.
4. [X] Claims 21-31 and 34-35 are rejected.
5. [ ] Claims _____ are objected to.
6. [ ] Claims _____ are subject to restriction or election requirement.
7. [ ] This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. [ ] Formal drawings are required in response to this Office action.
9. [ ] The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are [ ] acceptable; [ ] not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. [ ] The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been [ ] approved by the examiner; [ ] disapproved by the examiner (see explanation).
11. [ ] The proposed drawing correction, filed _____, has been [ ] approved; [ ] disapproved (see explanation).
12. [X] Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has [X] been received [ ] not been received [ ] been filed in parent application, serial no. _____; filed on _____.
13. [ ] Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. [ ] Other

EXAMINER'S ACTION

1. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 21-31 are rejected under 35 U.S.C. § 103 as being unpatentable over Inaba et al in view of Kanatani et al

Inaba et al teach a driving method for an electro-optical device comprising a plurality of a plurality of scanning electrodes (2a); a plurality of data electrodes (2b); a light modulating layer (4) filled between the scanning electrodes (2a) and data electrodes (2b) to form a large number of pixels (see figure 7; column 1, lines 17-22 and column 2, lines 34-47) and a data signal having a plurality of pulses with a constant pulse width will be applied to a plurality of data electrodes (2b). The number of pulses will be changed depending on a tone of an image to be displayed (see column 8, lines 4-9).

Inaba et al fail to disclose a pixel consisting of a thin film transistor. Kanatani et al teach a driving method for an

electro-optical device comprising a plurality of scanning electrodes (101); a plurality of data electrodes (102); a plurality of thin-film transistors (TFT) as the switching element for driving pixel electrodes (103); a data driver (200 for applying different half tone data signals, which are determined by the bit number of data signals (see column 16, lines 30-42); to data electrodes (102) and a scanning driver (300) for applying scanning signal to scanning electrodes (101)(see figure 20 and column 1, lines 23-55). It would have been obvious to have modified Inaba et al with the teaching of Kanatani et al, so to have a switch element to turn the pixel ON or OFF in a liquid crystal display.

As to claims 22 and 27, Kanatani et al teach voltage values of pulses are constant (see figures 9(a) - 9(f).

3. Claim 34 is rejected under 35 U.S.C. § 103 as being unpatentable over Inaba et al in view of Kanatani et al as applied to claim 33 above, and further in view of Kondo.

Inaba et al as modified by Kanatani et al fail to disclose ROM means for storing gradated display data. Kondo teaches a display device comprising a display (20); a ROM (6) and a memory for storing gradation data (see figure 1; column 4, lines 45-61 and column 13, lines 33-36). It would have been obvious to have modified the combination of Inaba et al and Kanatani et al with the teaching of Kondo, so the gradation data can be output from the memory when the display device needs.

4. Claim 35 is rejected under 35 U.S.C. § 103 as being unpatentable over Inaba et al in view of Kanatani et al and Kondo as applied to claim 34 above, and further in view of Kanayama et al and Kondo.

Inaba et al as modified fail to disclose a latch circuit, a flip-flop circuit and a counter. Kanayama teaches a method for a display device comprising a memory (11); a latch circuit (20); counters (PC1-PCN); a flip-flop circuits (FF_1-FF_N) (see figures 3, and 4; and column 6, lines 10-43). It would have been obvious to have modified the combination of Inaba et al, Kanatani et al and Kondo with the teaching of Kanayama, since it is well known to apply a counter and logic circuits in a display device for processing image data.

5. Applicant's arguments with respect to claims 21-31 and 34-35 have been considered but are deemed to be moot in view of the new grounds of rejection.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johary et al teach a method for generating gray scales for a flat panel display.

7. Any inquiry concerning this communication should be directed to Lun-Yi, Lao at telephone number (703) 305-4873.

Lun-Yi, Lao/skf
March 12, 1996

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
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